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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------|-------------|-----------------------|----------------------|------------------|
| 10/696,917 | 10/29/2003 | Wallace T. Van Winkle | H0005096 | 8221 |
| 7590 | 07/27/2005 | | EXAMINER | |
| | | | LIEU, JULIE BICHNGOC | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2636 | |
| DATE MAILED: 07/27/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/696,917 | VAN WINKLE ET AL. | |
| | Examiner | Art Unit | |
| | Julie Lieu | 2636 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 October 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/29/03 11/18/05
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Kadwell et al. (US Patent No. 6,326,897).

Claim 17:

Kadwell et al. (Kadwell) discloses a smoke detection system comprising:

- a. a central processing unit 46; and
- b. a smoke detector unit for receiving control signals from the central processing unit (i.e. the signal to alter the sensitivity), the smoke detection unit including:
 - i. a chamber (see front-page figure) having an inlet for allowing air and smoke to enter the chamber;
 - ii. a first emitter 38, positioned in the chamber, for emitting light along a path (fig. 10);
 - iii. a first monitor detector 140, positioned along the path of the emitted light, for receiving the emitted light from the first emitter; and

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iv. a first receive detector 28, positioned off the path of the emitted light, for receiving a portion of the emitted light when smoke passes between the first emitter and the first monitor detector causing the emitted light to scatter and for transmitting a first smoke alarm signal to the central processing unit.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadwell et al. (US Patent No. 6,326,897) in view of Solomon (US Patent No. 4,401,978).

Claim 19:

Kadwell fails to disclose a second emitter, second monitor detector, and a second receive detector. Nonetheless, the multiplication of parts to cause redundancy in detection and to enhance the detection accuracy of a system does not present an inventive step because this concept is well known to one of ordinary skill in the art as taught in Solomon and would have readily incorporating this concept into the Kadwell smoke detection system as desired because it would reduce false alarm.

Claim 20:

The central processing unit 46 in the modified system of Kadwell transmits an alarm signal after receiving the first smoke alarm signal and the second smoke alarm signal. Further, Kadwell fails to specifically state this smoke detection system is to be used in an aircraft and the warning signal is transmitted to the cockpit. However, the claimed feature only present the intended use of the device and would not be considered inventive because the function of the device would not thereby be modified.

Claim 1:

Kadwell discloses a method for reducing false detects, comprising:

- a. emitting an infrared light beam from a primary emitter 38 to a primary monitor detector 140;
- b. measuring a first voltage value using a primary receive detector 28;
- c. setting a primary smoke alarm flag corresponding to a primary channel if the first voltage value is above a first threshold value;

Kadwell fails to disclose a second emitter, second monitor detector, and a second receive detector. Nonetheless, the multiplication of parts to cause redundancy in detection and to

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enhance the detection accuracy of a system does not present an inventive step because this concept is well known to one of ordinary skill in the art as taught in Solomon and would have readily incorporating this concept into the Kadwell smoke detection system as desired because it would reduce false alarm. One skilled in the art would have readily setting an alarm flag when smoke is detected from each channel.

Claims 2 and 4:

The system in Kadwell's determines a calibration level for the primary and secondary channels represent a scatter count of the air.

Claims 3 and 5:

The percent of smoke value of the air only present a choice in design. A skilled artisan would have readily known which percent value would be proper for the indication that an alarm situation exists.

Claim 6:

The emitting device in Kadwell's system emits infrared light beam.

Claims 7 and 8:

Though not disclosed in Kadwell, one skilled in the art would have readily recognized that, in the modified system of Kadwell, the alarm situation should not be indicated if the redundant detector does not detect smoke and would disable the alarm flag.

Claim 9:

In Solomon, a supervisory circuit is used for providing a maintenance fault signal. It would have been obvious to one skilled in the art to apply this concept in the Kadwell system because it is conventional and desirable.

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Claim 10:

It is inherent that since one channel in the modified system of Kadwell fails, the other one functions as a primary detector channel.

Claim 11:

Kadwell fails to disclose that first threshold value and the second threshold value is equal. Nonetheless, it would have been obvious to one skilled in the art that these values should be equal since they are detecting the same amount of smoke.

Claim 12:

Kadwell discloses a method for using a smoke detection system comprising:

- a. transmitting light from a first emitter 38 to a first monitor detector 140;
- b. receiving a portion of the light using a first receive detector 28;
- c. determining a primary voltage by measuring the portion of the light received from the first receive detector 28 and if the primary voltage is greater than a primary threshold value, then setting a smoke alarm flag for the primary channel;

Kadwell fails to disclose a second emitter, second monitor detector, and a second receive detector. Nonetheless, the multiplication of parts to cause redundancy in detection and to enhance the detection accuracy of a system does not present an inventive step because this concept is well known to one of ordinary skill in the art as taught in Solomon and would have readily incorporating this concept into the Kadwell smoke detection system as desired because it would reduce false alarm. One skilled in the art would have readily setting an alarm flag when smoke is detected from each channel.

Claim 13:

In the modified system of Kadwell, light is transmitted from a second emitter to a second monitor detector.

Claims 14-15:

The percent of smoke value of the air only present a choice in design. A skilled artisan would have readily known which percent value would be proper for the indication that an alarm situation exists.

Claim 16:

In Solomon, a supervisory circuit is used for providing a maintenance fault signal. It would have been obvious to one skilled in the art to apply this concept in the Kadwell system because it is conventional and desirable. It is inherent that since one channel in the modified system of Kadwell fails, the other one functions as a primary detector channel.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Lieu whose telephone number is 571-272-2978. The examiner can normally be reached on MaxiFlex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Julie Lieu
Primary Examiner
Art Unit 2636

Jul 24, 05